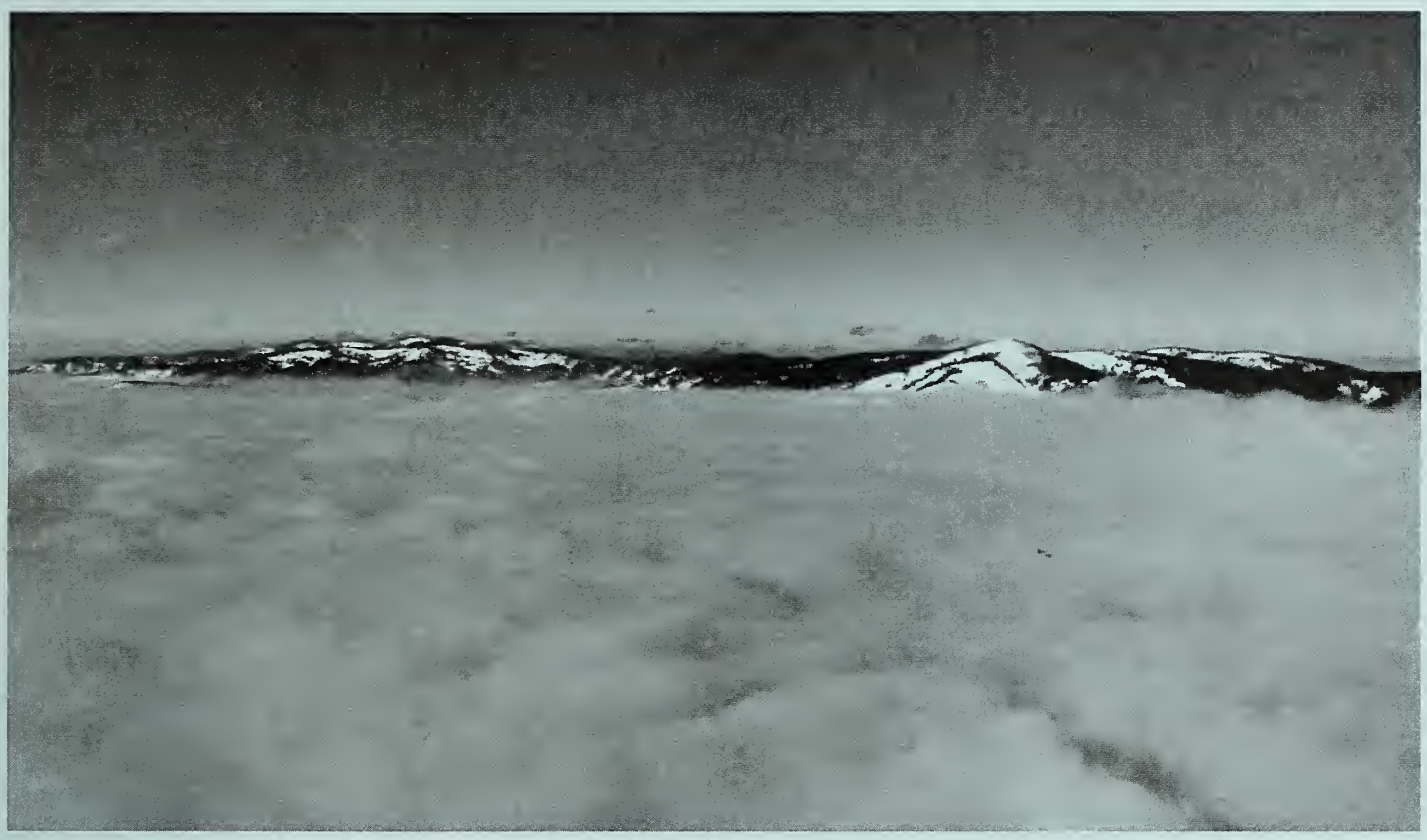
NRCS

United States Department of Agriculture
Natural Resources Conservation Service

Idaho Water Supply Outlook Report February 1, 2009



The inversion featured in the above picture was taken from a helicopter flying over the Lochsa River in north-central Idaho on January 23, 2009. According the NOAA Weather Glossary, an inversion is as a departure from the usual increase or decrease in an atmospheric property with altitude. Specifically, it almost always refers to a temperature inversion, i.e., an increase in temperature with height, or to the layer within which such an increase occurs. Temperature inversions interrupt normal air circulation patterns leaving stagnant air trapped in valley localities which can lead to unusually high levels of air pollution. For urban areas closely surrounded by hills and mountains such as Boise, the local geography can exacerbate the capping effects of inversions that trap airborne pollutants near the ground surface producing periods of low air quality. On January 17, the inversion covered most of the Snake River valley from Ontario to above Idaho Falls and stretched 40 miles south of the town of Bruneau. Temperatures in the Owyhee headwaters were below 0 degrees F while the valley temperatures remained fairly constant at 32 degrees F. Many central and northern mountainous valleys also experienced the inversion.

Basin Outlook Reports
and Federal - State - Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

IDAHO WATER SUPPLY OUTLOOK REPORT

February 1, 2009

SUMMARY

January brought high pressure to Idaho and with it blue skies to the mountains and cold, cloudy inversions to the valleys. High pressure caused the jet stream to skirt the mountainous west, and shifted winter weather to the Midwest and into the Great Lakes area. For example, Cleveland, Ohio had their second greatest January with 40.5 inches of snowfall. This pattern left most of Idaho high and dry for nearly the entire month. If it weren't for the precipitation received in the first week of January, the extended dry spell would be much more noticeable in monthly precipitation totals. A few isolated basins got lucky and received normal or better precipitation; this isolated precipitation pattern is more typical of summer precipitation rather than winter fronts moving across the state. With 40% of the winter still to come, we'll see if the second half of winter can bail the state out and make water user's decisions easier.

Most basins have snow in the 80-100% of average range and a handful of basins scattered across the state are just over 100%. Most streamflow forecasts range from 85-95% of average. The lowest ones are about 60% of average in Camas Creek, Big Wood River below Magic Dam, and Bear River at Stewart Dam. The Snake River near Heise is forecast at 95% of average due to a few upstream tributaries being forecast at 105% of average. Water supplies will be tight in some basins with low projections. More storms are needed to ensure good runoff; without them, streamflow forecasts will decrease more next month.

SNOWPACK

Current snowpacks range from 72% of average in the Coeur d'Alene basin to 115% in the Bruneau basin of southern Idaho. Most basins are in the 80-100% of average range. Daily percent of average values were decreasing in January one to two percentage points a day due to the dry spell. The mountainous snowpack is not melting; it is just not keeping pace with the normal daily increases in snow water content.

PRECIPITATION

January precipitation was spotty across the state, similar to summer precipitation patterns. The only basins to receive above average amounts were the Clearwater and Upper Snake basin above Palisades Reservoir where amounts exceeded 110% of average. The lowest amounts were 50-70% of average across central Idaho from the Boise basin to Henrys Fork basin. Water year-to-date amounts vary from 76% of average in the northern Panhandle Region to 120% in the Bruneau basin. The below normal January precipitation makes getting above average moisture in February and March even more critical. Historic snow records show that when the snowpack is much below average on February 1, it is often too late to recover to near normal snow water content amounts by April 1. This is primarily because Idaho's mountains receive 60 percent of their winter precipitation in November, December and January. Thus, February and March would have to bring their normal monthly precipitation amounts in addition to the deficit amount. Spring precipitation in April, May and June is like a wild card that can provide a big kicker and produce good streamflows from a below normal snowpack, but it is not always there to count on it.

RESERVOIRS

Currently, reservoir manager's big decisions are on hold with only minimal amounts of runoff resulting from below normal January precipitation across most of the state. The Coeur d'Alene River and Spokane rivers did increase briefly in January allowing some of the low elevation snow to runoff and produce one spike in the rivers. From north to south: Pend Oreille, Priest and Coeur d'Alene lakes are 75-85% of average. Dworshak Reservoir and the Payette reservoir system are slightly above average. The Boise, Owyhee and Upper Snake reservoirs are near average except for Blackfoot Reservoir which is 41% of average. Lowest reservoir storage in the state is in Magic, Salmon Falls and Bear Lake which range from 32-41% of average.

Idaho's Surface Water Supply Index (SWSI) shows that surface irrigation should be adequate in most basins based on the 50% exceedance forecast occurring. Water supplies may be marginally adequate in the Bear basin and shortages may occur in the Oakley and Salmon Falls basins.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases, dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

Streamflow forecasts decreased slightly across most of the state due to below normal precipitation since early January. A few basins, such as the Upper Snake, Bruneau and Selway, received average or better precipitation and streamflow projections are similar or increased higher than a month ago. Forecasts range from 75-85% of average in the Panhandle Region. Dworshak Reservoir inflow and the Salmon River and its tributaries are forecast at about 85% of average. Streams across central Idaho from the Weiser River to the Little Lost River are forecast in the 70-80% of average range, except for Camas Creek and the Big Wood River below Magic Reservoir which are forecast for 60%. A pocket of slightly above normal January precipitation that fell in Wyoming along the Idaho-Wyoming stateline increased the forecasts in the Falls River and Snake River tributaries in Wyoming to 105% of average. The Snake River near Heise is forecast almost the same as last month forecast at 95% of average. Willow Creek is forecast at 91% of average. The Henrys Fork, Teton and Blackfoot rivers are forecast at 82% of average. Further downstream the forecasts decrease to 76% of average for the Portneuf River. The high desert streams south of the Snake River received near average precipitation and are forecast at about 80-90% of average. Bear River basin forecasts call for 85% of average in the headwaters, but only 60% for the Bear River at Stewart Dam.

Water users may wish to use a smaller exceedance volume forecast, especially if the dry spell continues. Based on past years, the 50% exceedance forecast is best used when everything is normal. In many basins of the state, with the exception of Clearwater basin, consecutive dry months and even dry years has become the norm. Back to back dry periods take a toll on soil moisture which in turn reduces baseflow levels to streams. In the spring dry soils absorb snowmelt before runoff occurs; further reducing how much snow water makes it into streams. This, in part, explains why streamflow forecasts percentages can be less than snowpack percentages in a particular basin. Climate variability has also been the norm in recent years, so let's keep our fingers crossed and hope we get back in the jet stream..

Note: Forecasts published in this report are NRCS guidance forecasts. NRCS is using SNOTEL data in a timely manner to provide timely streamflow forecast for users. Official jointly coordinated and published forecasts by the USDA Natural Resources Conservation Service and the US Department of Commerce, NOAA, National Weather Service are available at the joint west-wide Water Supply Outlook for the Western US at http://www.wcc.nrcs.usda.gov/wsf/westwide.html.

RECREATION

Perhaps you relate to Sawtooth Avalanche forecaster Chris Lundy who summed up January's winter backcountry recreation by saying…

"Benefits from our snow bailout package of late-December/early-January were certainly short-lived. We got too much too quickly and didn't know what to do with it. If only we'd squirreled some away, we could be fighting the rising un-enjoyment rates caused by these lean times. The good news is that there is still decent snow to be found, you just need to look harder than usual."

It's true, lean times call for more resourcefulness to satisfy your recreation needs. Here are some tips to help you survive prolonged high pressure...

- Get out of the valleys – inversions trap cold air and clouds in the valleys. Go to the mountains to enjoy fun in the sun.
- Go nordic skate skiing, it's often faster and easier once snow ages.
- Challenge yourself with steep terrain. Avalanche hazard eases during dry periods allowing you to high mark or make turns on backcountry slopes that you would not touch during storm periods.
- Go on a long tour. Consolidated snow and clear weather, combined with safe snow gives you a golden opportunity to cover lots of ground without getting bogged down trail breaking and route finding.
- Travel somewhere new. No storms equal clear roads, so get out of your winter routine and recreate somewhere new.
- Investigate beautiful snow crystals. High pressure brings calm winds and cool nights; perfect conditions for the formation of surface facets. When a patch of snow twinkles in the sun like diamonds, you can bet there are facets on the surface. Bend down and take a close look, they can be stunning.
- Don't give up if at first you don't succeed finding good snow. The process of surface faceting is repeated night after night when conditions are correct, this means conditions can improve as days go by. This January up to about a foot of delightful snow developed on the surface as a result of daily temperature cycles re-crystallizing the snow. This is called surface hoar. These facets are widespread and will cause avalanches once it snows again but for now they offer fun.
- Think ahead! Use the high pressure to get your taxes done so when it does start snowing you'll be free to enjoy it. Or, why not research snow conditions to predict where the river running will be best this spring and summer? Did you know the Clearwater and Bruneau basins are having above average winters while the Middle Fork of the Salmon River is below average? It's a good time to put some thought into when river conditions might be right for your trip.

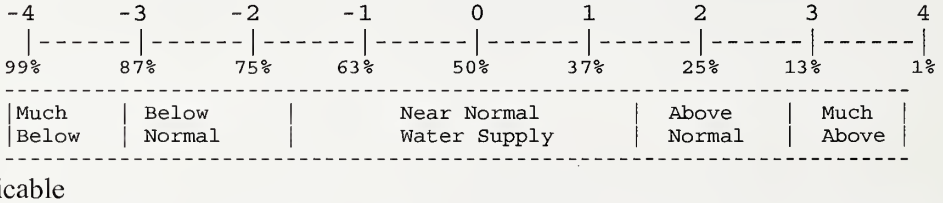
IDAHO SURFACE WATER SUPPLY INDEX (SWSI) *As of February 1, 2009*

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1971 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
PANHANDLE	-1.9	1995	NA
CLEARWATER	0.1	2000	NA
SALMON	-0.2	2003	NA
WEISER	-1.5	2005	NA
PAYETTE	-1.1	2004	NA
BOISE	-0.4	2003	-1.7
BIG WOOD	-1.1	2005	0.0
LITTLE WOOD	-0.6	2000	-2.0
BIG LOST	-0.6	2005	-0.1
LITTLE LOST	-1.5	2008	0.5
HENRYS FORK	-0.5	2000	-3.3
SNAKE (HEISE)	0.9	2006	-1.7
OWYHEE	-0.9	2005	NA
OAKLEY	-1.1	1993/1995	-0.9
SALMON FALLS	-1.5	2007	-1.3
BRUNEAU	-0.6	2008	NA
BEAR RIVER	-2.7	1994/1995	-3.0

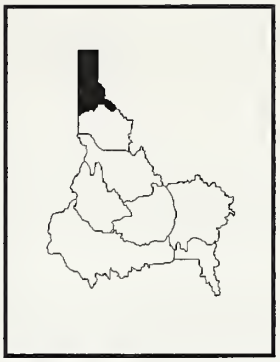
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

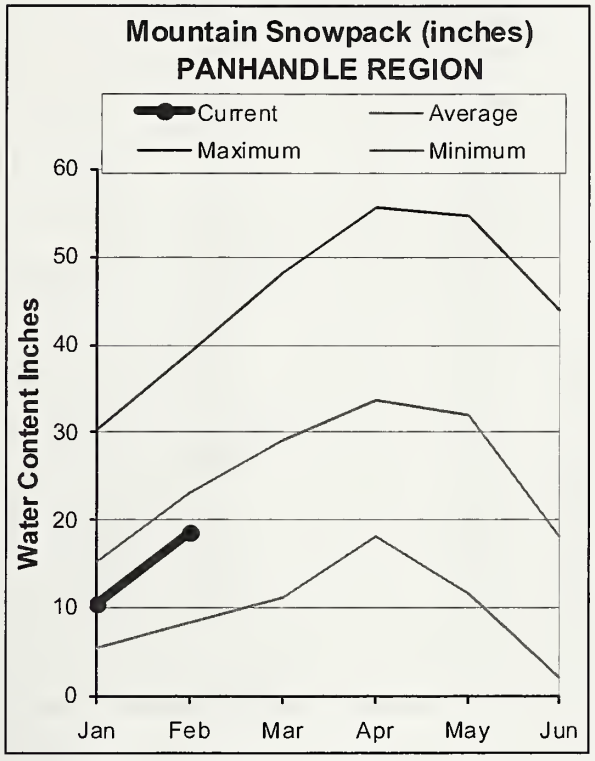


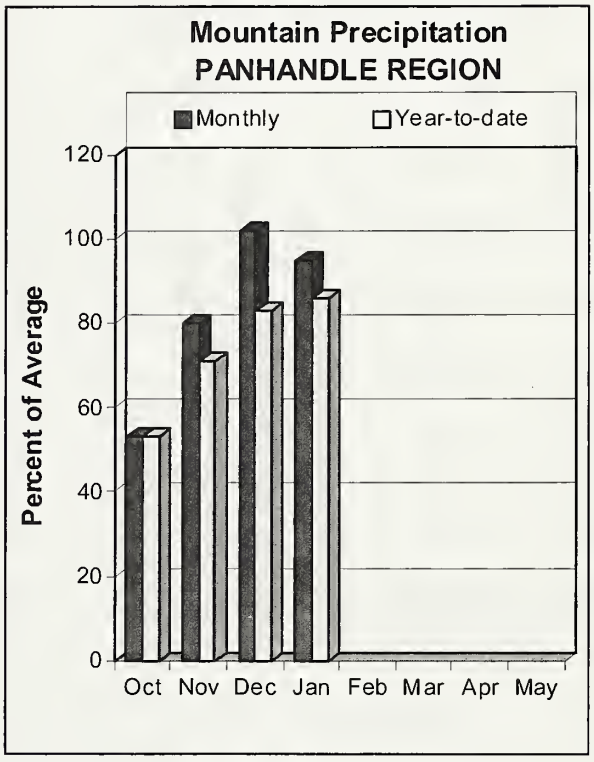
NA = Not Applicable

Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

PANHANDLE REGION
FEBRUARY 1, 2009







WATER SUPPLY OUTLOOK

January's dry spell allowed many residents to finish digging themselves out. January precipitation was only 77% of average in northern Idaho's Kootenai River basin, but increased to 110% in the St. Joe basin. Water year-to-date precipitation in the Panhandle is 86% of average, less than last year. Mountain snowpacks remain below average with the lowest at 72% of average in the Coeur d'Alene basin. Most of the mountain snow in the Panhandle region is the lowest since 2005. Its difficult to compare snow water content amounts between mountains and valleys because valley weather stations measure daily snowfall but not snow water content. Coeur d'Alene Lake is 83% of average and had one flush of water move through the basin. Priest Lake is at its minimum winter storage level due to below normal January precipitation. Spring and summer streamflow forecasts range from 75% of average in the Moyie and Priest rivers to 83% in St. Joe and Spokane river basins. Last year a winter thaw never occurred and the low elevation snow remained and melted after April 1 which resulted in a very high single peak of 40,000 cfs rather than multiple peaks at the Post Falls flow station. Last year's runoff was 150% of average for the Spokane River near Post Falls. In 2008, streamflow levels never reached 10,000 cfs at the Post Falls flow station until mid-April. In contrast, this year, the river reached 10,000 cfs in mid-January for several days. This means some of the snow and previous month's precipitation is moving out of the basin and downriver which is good news to help mitigate high water concerns. If this thaw did not happen, then concerns of an extended period of high runoff like last year would still be elevated. Water users and land owners near rivers should watch to see if another winter thaw occurs or not. High flows from the higher elevation snowpack alone will be short lived due to the below normal snow levels.

PANHANDLE REGION

Streamflow Forecasts - February 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	APR-JUL	4651	5324	5630	80	5936	6609	7040
	APR-SEP	5394	6155	6500	80	6845	7606	8120
MOYIE RIVER at Eastport	APR-JUL	235	275	305	75	335	375	405
	APR-SEP	245	285	315	75	345	385	420
SMITH CREEK	APR-JUL	74	88	98	80	108	122	123
	APR-SEP	76	92	103	80	114	130	129
BOUNDARY CREEK	APR-JUL	77	88	96	78	104	115	123
	APR-SEP	81	92	100	78	108	119	129
CLARK FK at Whitehorse Rpds (1,2)	APR-JUL	9277	9733	9940	88	10147	10603	11300
	APR-SEP	10124	10658	10900	87	11142	11676	12500
PEND OREILLE Lake Inflow (2)	APR-JUL	10455	10779	11000	87	11221	11545	12700
	APR-SEP	11538	11873	12100	87	12327	12662	13900
PRIEST near Priest River (1,2)	APR-JUL	363	540	620	76	700	877	815
	APR-SEP	387	575	660	76	745	933	870
NF COEUR D'ALENE RIVER at Enaville	APR-JUL	330	480	585	79	690	840	740
	APR-SEP	360	510	615	79	720	870	780
ST. JOE at Calder	APR-JUL	622	809	935	82	1061	1248	1140
	APR-SEP	663	855	985	82	1115	1307	1200
SPOKANE near Post Falls (2)	APR-JUL	1520	1860	2090	82	2320	2660	2550
	APR-SEP	1590	1930	2160	82	2390	2730	2650
SPOKANE at Long Lake (2)	APR-JUL	1700	2100	2370	83	2640	3040	2850
	APR-SEP	1850	2270	2550	83	2830	3250	3070

PANHANDLE REGION

Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	2563.0	2552.0	2214.7
FLATHEAD LAKE	1791.0	941.2	914.7	971.2
NOXON RAPIDS	335.0	311.2	306.2	310.9
PEND OREILLE	1561.3	567.3	910.2	749.3
COEUR D'ALENE	238.5	95.5	37.8	115.6
PRIEST LAKE	119.3	48.5	49.9	55.5

PANHANDLE REGION

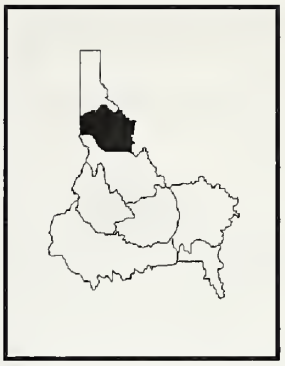
Watershed Snowpack Analysis - February 1, 2009

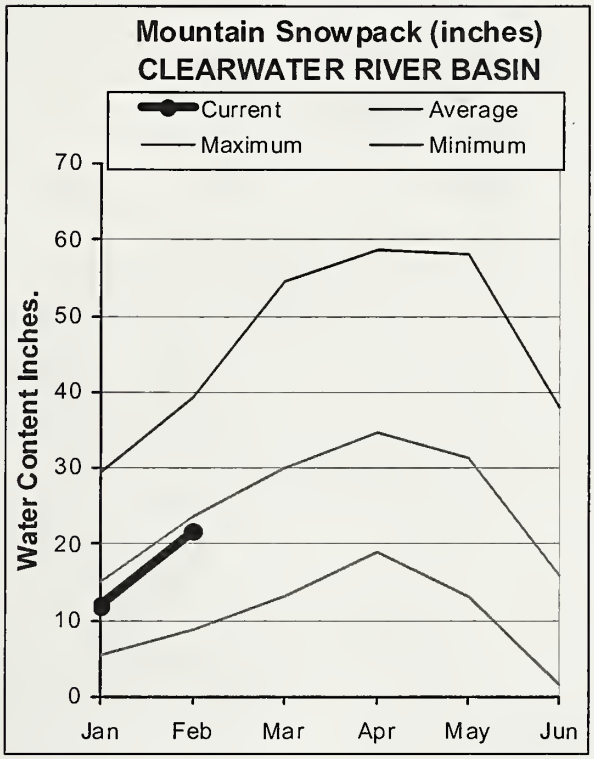
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	20	78	77
Moyie River	9	75	76
Priest River	4	63	83
Pend Oreille River	69	85	89
Rathdrum Creek	3	65	99
Hayden Lake	0	0	0
Coeur d'Alene River	5	63	72
St. Joe River	4	76	83
Spokane River	10	68	82
Palouse River	1	68	111

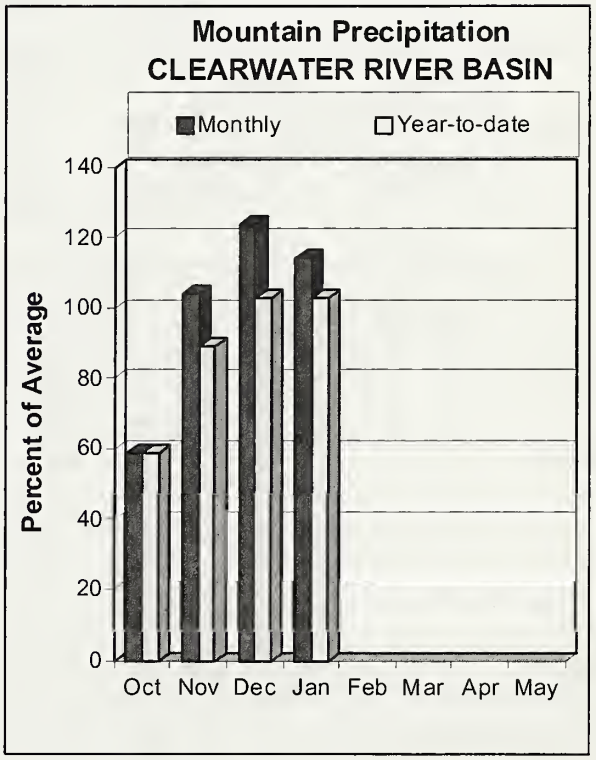
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

CLEARWATER RIVER BASIN
FEBRUARY 1, 2009







WATER SUPPLY OUTLOOK

Moisture continued pushing into the Clearwater basin in January as it was one of the few basins in the state to receive above normal amounts. The precipitation amounts even varied within the basin ranging from 90% of average in the Lochsa basin to 130% in the Selway basin. Overall, water year-to-date precipitation is average. Snowpacks range from 102% of average in the Selway basin to 88% in North Fork Clearwater basin. Overall, the Clearwater basin is 92% of average but has only 60% of the average April 1 amounts. Last year the snowpack was 111% of average on February 1, and increased to 125% by April 1, resulting in 125% of average runoff. Dworshak Reservoir is 68% full, about the same as last year, and slightly above average for this time of year. Streamflow forecasts are for 106% of average for the Selway River, 98% for Lochsa River and 85% for Dworshak Reservoir inflow. The water supply outlook is encouraging in this basin, but additional moisture is still needed to ensure good flows.

CLEARWATER RIVER BASIN
Streamflow Forecasts - February 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter ======>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Selway R nr Lowell	APR-JUL	1806	2030	2182	106	2334	2558	2060
	APR-SEP	1906	2135	2291	106	2447	2676	2170
Lochsa R nr Lowell	APR-JUL	1216	1384	1499	98	1614	1782	1530
	APR-SEP	1287	1458	1574	98	1690	1861	1610
Dworshak Reservoir Inflow	APR-JUL	1493	2004	2236	85	2468	2979	2640
	APR-SEP	1631	2149	2384	85	2619	3137	2800
Clearwater R at Orofino	APR-JUL	3452	4272	4645	100	5018	5838	4650
	APR-SEP	3623	4487	4880	100	5273	6137	4900
Clearwater R at Spalding	APR-JUL	5016	6327	6922	93	7517	8828	7430
	APR-SEP	5347	6732	7361	94	7990	9375	7850

CLEARWATER RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2343.1	2254.7	2170.7

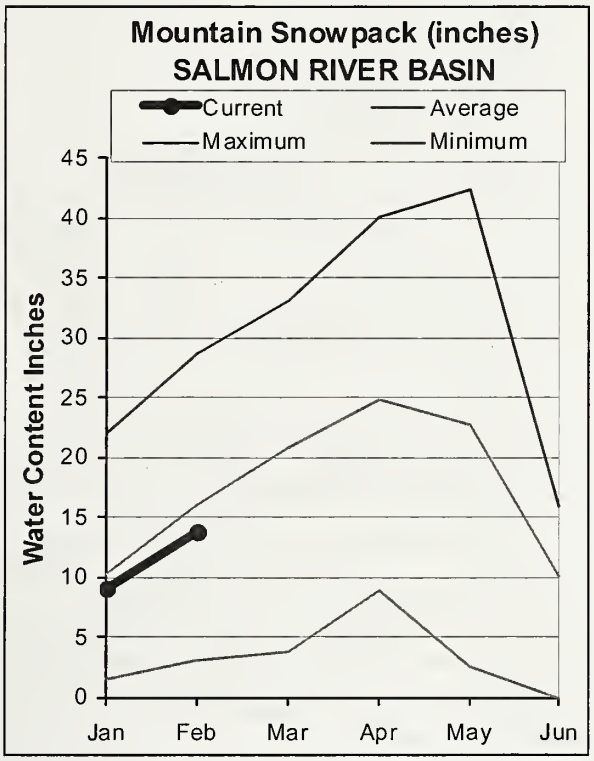
CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - February 1, 2009

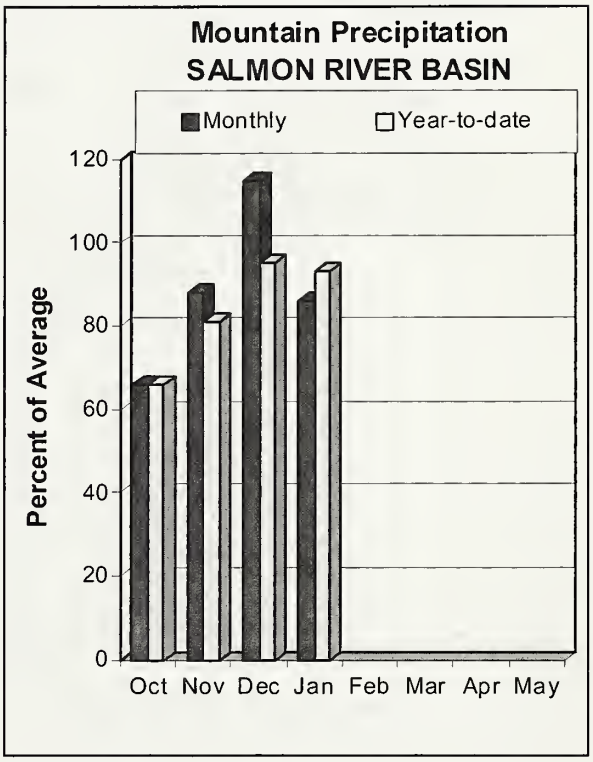
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	9	81	88
Lochsa River	4	79	90
Selway River	5	93	102
Clearwater Basin Total	17	83	92

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

SALMON RIVER BASIN
FEBRUARY 1, 2009





WATER SUPPLY OUTLOOK

January precipitation ranged from 70% of average in the South Fork Salmon basin to 88% in the Lemhi basin along the Montana border. This precipitation pattern, with the greatest amounts falling along the continental divide, is noticeable this month from the Selway basin to the Snake River in Wyoming. Precipitation in the Salmon basin since the water year started is 93% of average. Current snowpacks range from about 80% of average in the Middle Fork, South Fork and Little Salmon tributaries to 102% in the Lemhi basin. Overall the Salmon basin snowpack is 89% of average, which is three-quarters of last year, and very similar to 2007. Unfortunately, runoff in 2007 in the Middle Fork Salmon River and Salmon River at White Bird was only 65% of average. Current streamflow forecasts for April-July are for 79-88% of average for the Salmon River and its tributaries, and should provide adequate flows for the river runners and water users.

SALMON RIVER BASIN

Streamflow Forecasts - February 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Salmon R at Salmon	APR-JUL	361	594	700	82	806	1039	855
	APR-SEP	418	691	815	82	939	1212	1000
Lemhi R nr Lemhi	APR-JUL	37	54	68	79	83	108	86
	APR-SEP	48	68	84	80	101	130	105
MF Salmon R at MF Lodge	APR-JUL	421	581	690	88	799	959	785
	APR-SEP	444	623	744	85	865	1044	875
Salmon R at White Bird	APR-JUL	3160	4522	5140	88	5758	7120	5850
	APR-SEP	3520	5026	5710	88	6394	7900	6480

SALMON RIVER BASIN

Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN

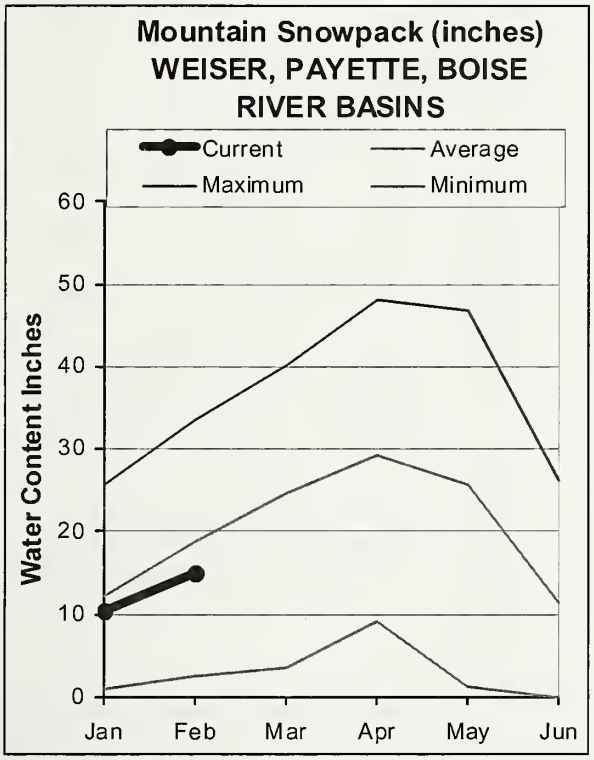
Watershed Snowpack Analysis - February 1, 2009

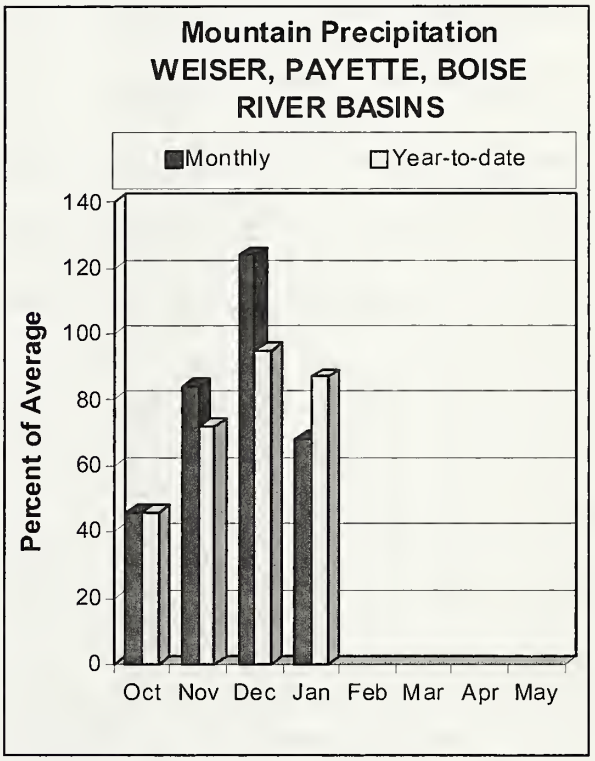
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	9	79	87
Lemhi River	6	88	102
Middle Fork Salmon River	3	70	80
South Fork Salmon River	3	66	77
Little Salmon River	4	64	82
Salmon Basin Total	24	77	89

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS FEBRUARY 1, 2009





WATER SUPPLY OUTLOOK

January's high pressure resulted in gloomy skies blanketing the valleys, while sunny weather prevailed in the mountains. Either way these conditions indicated that Idaho was missing the storm track. Monthly precipitation was 68% of normal in the West Central Mountains, only the mountains in the Wood and Lost river basins had less. Water year precipitation since October stands at 87% of normal. Snowpacks which had climbed back to normal amounts during the first week of January have seen very little accumulation since then. Missed snowfall has resulted in below average February 1 snowpacks in all three basins. The Weiser basin's snow is 77% of average, while the Payette and Boise basins are slightly better at 81% and 85% respectively. Streamflow forecasts dropped up to 10% this month and now range from about 70-80% for the April–July period. The best forecasts are for the Boise River near Twin Springs while the lowest are for the South Fork Boise. Cascade and Deadwood Reservoirs are storing 67% and 50% of their capacities respectively, about average for February 1. On the Boise River storage ranges from 30% of capacity in Lucky Peak to 58% of capacity in Anderson Ranch and 83% of capacity in Arrowrock. Overall, the Boise reservoir system is 97% of average. Thanks to decent reservoir storage this summer's surface water supplies should still be adequate despite the lower than normal snowpack. An analysis completed last fall showed that the Boise basin needs a snowpack that is at least 80% of normal to meet irrigation demand. The current snowpack is slightly more than this threshold, so average precipitation will be necessary for the rest of the winter to ensure adequate supplies this summer. If February brings another month of dry weather the chance of having irrigation shortages will increase.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - February 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Weiser R nr Weiser	FEB-JUL	198	381	484	75	599	896	650
	APR-SEP	129	245	310	74	382	569	420
SF Payette R at Lowman	APR-JUL	247	301	340	77	382	447	440
	APR-SEP	283	343	387	78	434	507	495
Deadwood Reservoir Inflow	APR-JUL	62	90	103	77	116	144	134
	APR-SEP	65	96	110	78	124	155	142
Lake Fork Payette R nr McCall	APR-JUL	54	62	69	81	76	86	85
	APR-SEP	55	64	71	80	78	89	89
NF Payette R at Cascade	APR-JUL	223	345	401	77	457	579	520
	APR-SEP	220	349	408	76	467	596	540
NF Payette R nr Banks	APR-JUL	334	435	504	75	573	674	675
	APR-SEP	332	443	518	74	593	704	700
Payette R nr Horseshoe Bend	APR-JUL	823	1144	1290	79	1436	1757	1640
	APR-SEP	821	1208	1383	79	1558	1945	1760
Boise R nr Twin Springs	APR-JUL	313	455	520	82	585	727	635
	APR-SEP	345	498	567	82	636	789	690
SF Boise R at Anderson Ranch Dam	APR-JUL	211	351	415	77	479	619	540
	APR-SEP	231	377	444	77	511	657	580
Mores Ck nr Arrowrock Dam	APR-JUL	48	72	90	69	111	145	131
	APR-SEP	50	74	93	68	114	150	137
Boise R nr Boise	APR-JUN	638	877	986	78	1095	1334	1260
	APR-JUL	605	945	1099	78	1253	1593	1410
	APR-SEP	657	1026	1193	78	1360	1729	1530

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	2.8	1.4	4.3
CASCADE	693.2	464.2	476.6	448.4
DEADWOOD	161.9	81.0	65.8	86.3
ANDERSON RANCH	450.2	262.3	151.0	283.6
ARROWROCK	272.2	224.7	205.8	201.1
LUCKY PEAK	293.2	89.0	91.8	106.6
LAKE LOWELL (DEER FLAT)	165.2	89.5	79.5	101.7

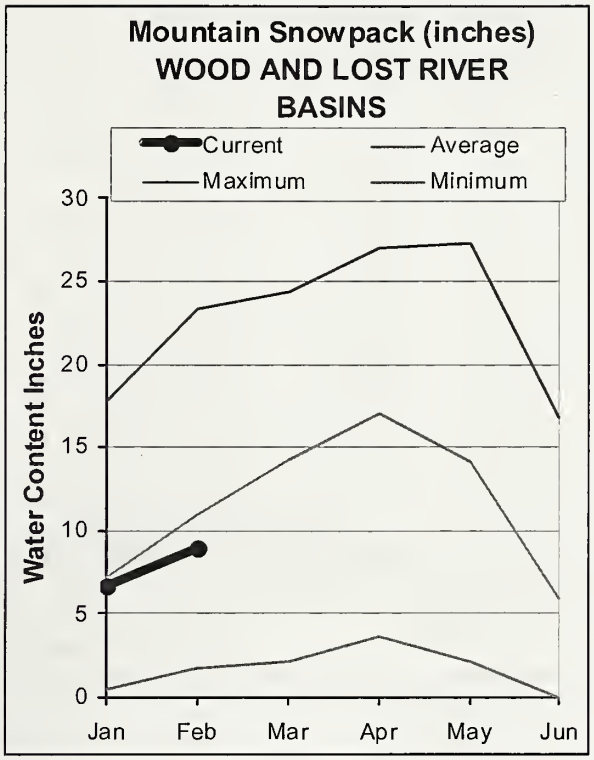
WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2009

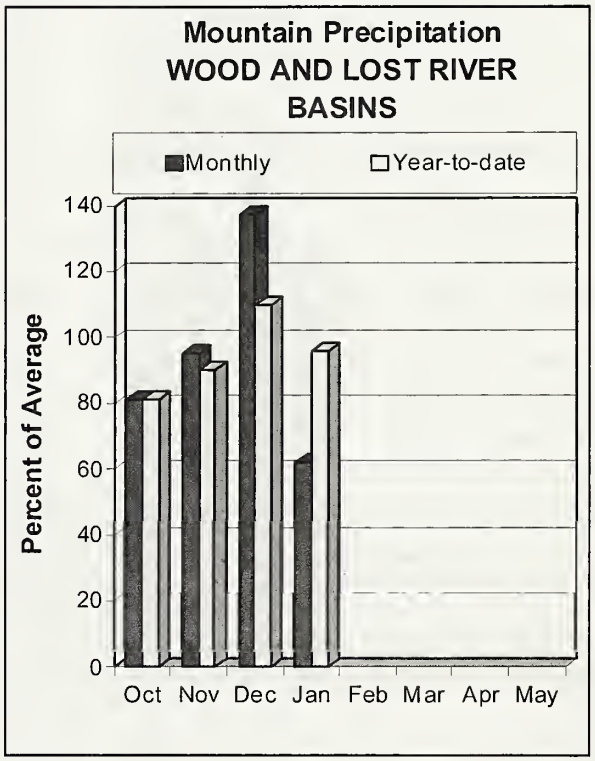
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	58	69
Weiser River	3	52	77
North Fork Payette	8	66	81
South Fork Payette	5	72	80
Payette Basin Total	14	70	81
Middle & North Fork Boise	5	78	80
South Fork Boise River	8	77	85
Mores Creek	5	78	87
Boise Basin Total	15	77	85
Canyon Creek	1	97	102

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WOOD and LOST RIVER BASINS
FEBRUARY 1, 2009





WATER SUPPLY OUTLOOK

After one good month with above normal precipitation in December, the dry spell started again with January precipitation at only 62% of average across central Idaho. In 2008, only January and December received above average precipitation. Let's hope the new dry trend doesn't last as long. The lowest amounts of precipitation this January were in Camas Creek basin at 52% of average and increased to only 75% in the Little Lost basin. Water year-to-date precipitation sounds encouraging at 96% of average, but the moisture is not reflected in the mountain snowpack. Word on the street has it that the snowpack in Arco looks similar to the mountain snowpack and is only two and a half feet deep. What you see is what you get -- the valley snow will melt soon and runoff will be minimal unless it rains. Current snowpacks are 75-85% of average with the exception of Camas, Birch and Medicine Lodge creeks which are 95% of average. Reservoir storage remains low with Magic at only 14% of capacity, Little Wood at 36%, and Mackay at 52%. Combining reservoir storage with streamflow forecasts that are only 60-80% of average indicates that water supplies will be tight based on the Surface Water Supply Indexes. Water users may wish to use a smaller exceedance volume forecast, especially if the dry spell continues. As observed from past years, the 50% exceedance forecasts should be used when everything is normal. Consecutive dry months have become the norm and lack of precipitation has taken its toll on soil moistures which reduces spring flows and baseflows. With below normal snowpacks again this year, water users should use caution in choosing which exceedance forecast to use based on past knowledge and future weather. Stay tuned to see if our variable climate can bring more snowfall to central Idaho in the second half of winter or if a dry trend like last year continues.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - February 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Big Wood River at Hailey	APR-JUL	65	140	183	72	232	361	255
	APR-SEP	73	157	206	71	261	406	290
Big Wood R ab Magic Reservoir	APR-JUL	8.0	68	108	57	148	208	190
	APR-SEP	19.0	83	126	62	169	233	205
Camas Ck nr Blaine	APR-JUL	19.0	42	62	62	87	130	100
	APR-SEP	20	42	63	62	88	131	101
Big Wood R bl Magic Dam	APR-JUL	13.0	106	170	59	234	327	290
	APR-SEP	28	124	189	62	254	350	305
Little Wood R ab High Five Creek	MAR-JUL	25	46	65	77	87	124	85
	MAR-SEP	27	51	71	77	94	135	92
Little Wood R nr Carey	MAR-JUL	36	56	70	73	84	104	96
	MAR-SEP	36	58	73	70	88	110	104
Big Lost R at Howell Ranch	APR-JUL	70	106	135	78	167	221	173
	APR-SEP	80	121	154	78	191	253	197
Big Lost R bl Mackay Res	APR-JUL	42	80	105	75	130	168	141
	APR-SEP	54	100	131	76	162	208	172
Little Lost R nr Howe	APR-JUL	13.8	19.0	23	74	27	35	31
	APR-SEP	16.5	23	28	72	34	42	39

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	27.5	20.3	85.0
LITTLE WOOD	30.0	10.8	11.9	16.3
MACKAY	44.4	23.1	21.7	27.7

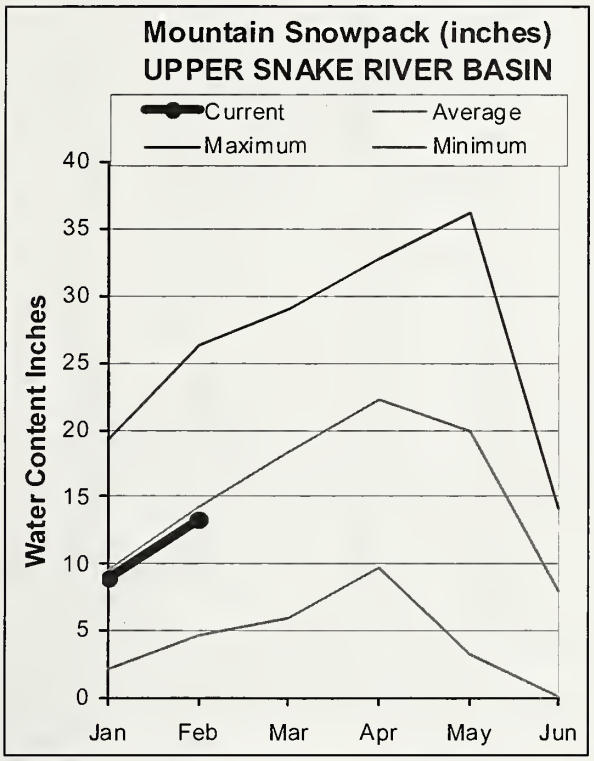
WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - February 1, 2009

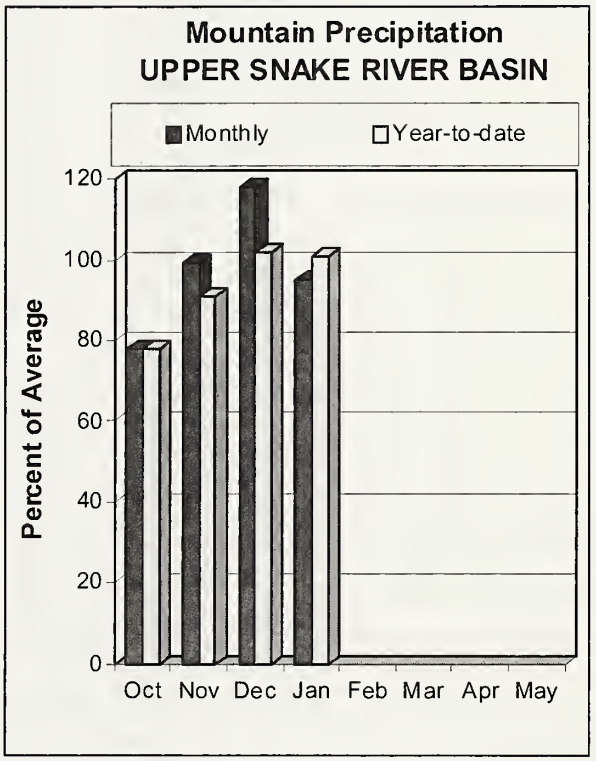
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Hailey	8	67	76
Camas Creek	4	85	94
Big Wood Basin Total	12	69	81
Fish Creek	3	85	86
Little Wood River	8	75	89
Big Lost River	6	70	83
Little Lost River	3	71	83
Birch-Medicine Lodge Cree	2	86	95
Camas-Beaver Creeks	4	62	86

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER SNAKE BASINS
FEBRUARY 1, 2009





WATER SUPPLY OUTLOOK

In January the state line provided a critical break between below average precipitation in Idaho and near to above average precipitation in Wyoming. Precipitation at Idaho sites in the Upper Snake basin was 77% of average while sites in Wyoming saw 110% of average. Overall, January precipitation was near average across the basin and much better than the central mountains in Idaho which saw 60-70% of average. Water year-to-date precipitation in the Upper Snake remains just a hair above average. Snowpacks follow similar geographic trends with Idaho sites in the Henrys Fork, Teton, Blackfoot and Ririe basins at 82-91% of average, while snowpacks at Wyoming sites range from 93% of average in the Snake River headwaters above Jackson Lake to 112% of average in the Salt River basin. As would be expected, streamflow forecasts follow suit with snow and precipitation patterns. The Snake River near Heise is forecast for 95% of average. Tributaries upstream of this point are forecast up to 108% of average. Rivers that join the Snake below this point will flow below average; for example the Henrys Fork near Rexburg is forecast at 81% of average and the Portneuf River at Topaz at 76%. Reservoir storage is generally above average across the region, exceptions include Blackfoot and Palisades reservoirs. Jackson Lake is storing 132% of average and is prepared to make up for any perceived shortcomings in Palisades. At this point surface water supplies look promising for the Snake River surface water users based on the Surface Water Supply Index.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - February 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter ======>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Henrys Fork nr Ashton	APR-JUL	344	414	466	82	521	607	570
	APR-SEP	488	574	636	83	701	803	765
Henrys Fork nr Rexburg	APR-JUL	992	1158	1270	81	1382	1548	1560
	APR-SEP	1301	1488	1615	80	1742	1929	2010
Falls R nr Ashton	APR-JUL	262	303	332	87	363	411	380
	APR-SEP	313	360	394	88	430	485	450
Teton R nr Driggs	APR-JUL	94	117	135	82	154	184	165
	APR-SEP	117	147	170	81	194	233	210
Teton R nr St. Anthony	APR-JUL	231	286	327	81	371	440	405
	APR-SEP	280	345	393	82	444	525	480
Snake River At Flagg Ranch	APR-JUL	383	441	480	97	519	577	495
	APR-SEP	421	483	525	96	567	629	545
Snake R Nr Moran	APR-JUL	615	742	800	98	858	985	815
	APR-SEP	677	820	885	98	950	1093	905
Pacific Ck At Moran	APR-JUL	143	168	185	108	202	227	171
	APR-SEP	146	172	190	107	208	234	178
Snake R Nr Alpine	APR-JUL	1707	2076	2244	95	2412	2781	2370
	APR-SEP	1954	2380	2574	94	2768	3194	2730
Greys R Nr Alpine	APR-JUL	272	324	360	106	396	448	340
	APR-SEP	314	376	417	106	458	520	395
Salt R Nr Etna	APR-JUL	217	301	358	105	415	499	340
	APR-SEP	270	369	436	104	503	602	420
Snake R nr Irwin	APR-JUL	2390	2922	3164	95	3406	3938	3330
	APR-SEP	2844	3443	3715	96	3987	4586	3870
Snake R nr Heise	APR-JUL	2723	3115	3382	95	3649	4041	3560
	APR-SEP	3242	3690	3994	96	4298	4746	4160
Willow Ck nr Ririe	MAR-JUL	50	68	80	91	92	110	88
Blackfoot R ab Res nr Henry	APR-JUN	28	46	60	82	76	103	73
Portneuf R at Topaz	MAR-JUL	47	59	68	76	78	93	89
	MAR-SEP	57	72	82	75	93	111	109
Snake River at Neeley	APR-JUL	1459	2416	2851	88	3286	4243	3240
	APR-SEP	1406	2442	2913	83	3384	4420	3510

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	86.2	77.8	83.2
ISLAND PARK	135.2	110.6	85.4	102.2
GRASSY LAKE	15.2	12.9	13.2	11.8
JACKSON LAKE	847.0	646.0	319.4	490.1
PALISADES	1400.0	923.4	503.2	1040.3
RIRIE	80.5	40.0	38.9	35.8
BLACKFOOT	348.7	91.2	83.3	220.1
AMERICAN FALLS	1672.6	1193.8	906.1	1125.4

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - February 1, 2009

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Henrys Fork-Falls River	10	78	84
Teton River	8	87	86
Henrys Fork above Rexburg	18	80	85
Snake above Jackson Lake	9	93	93
Gros Ventre River	3	101	103
Hoback River	5	111	93
Greys River	5	121	106
Salt River	5	124	112
Snake above Palisades	28	102	97
Willow Creek	7	93	100
Blackfoot River	4	95	90
Portneuf River	6	96	89
Snake abv American Falls	47	94	94

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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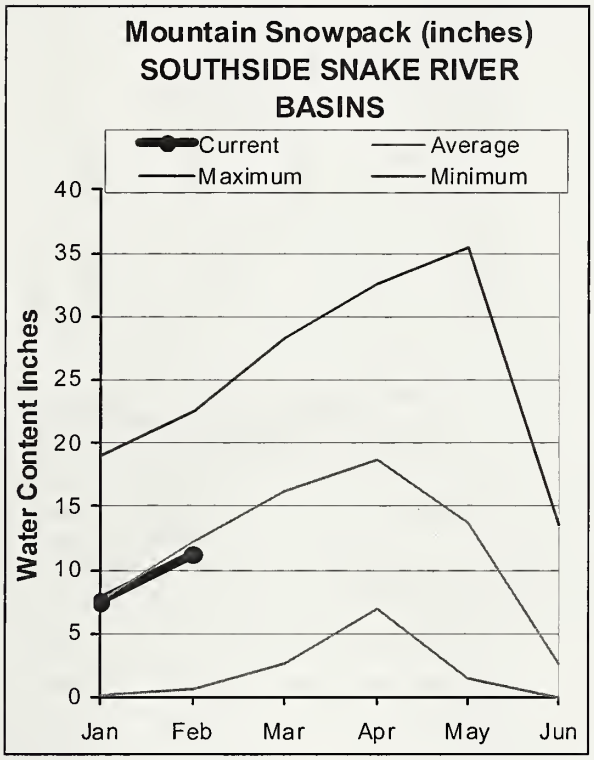
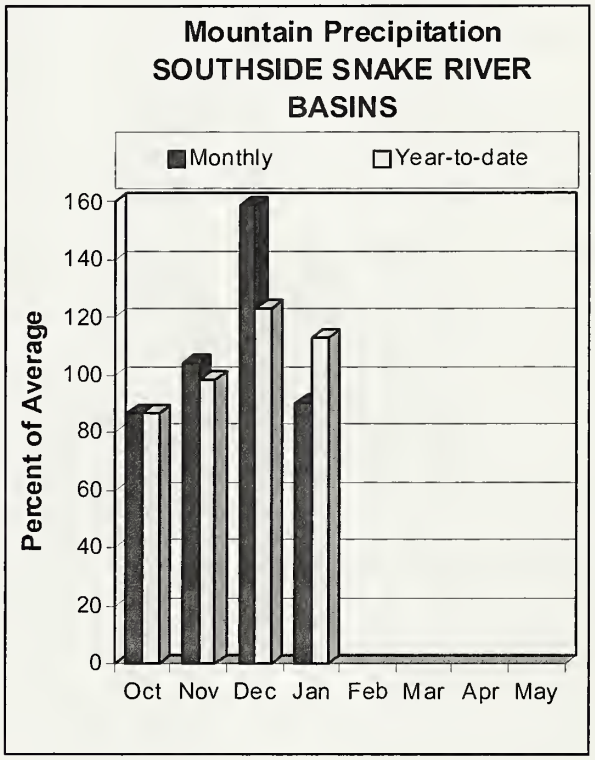
SOUTHSIDE SNAKE RIVER BASINS FEBRUARY 1, 2009





WATER SUPPLY OUTLOOK

Statewide the southside Snake basins have experienced 113% of normal precipitation since October; better than any other region in Idaho. Close to average January precipitation kept snowpacks in the Owyhee, Reynolds Creek, Bruneau and Salmon Falls basins 94–115% of average for February 1, while the Oakley and Raft basins' snow lags at about 84% of average. Good snow is good news for reservoirs that are storing below average amounts. Salmon Falls contains the least at 37% of average and Wildhorse with 66%, is second behind Brownlee at 98%. Streamflow forecasts call for 80-90% of average flows in all basins except Oakley where reservoir inflow is expected to be 79% of average. This month a number of new surface water supply products for the Owyhee basin are debuting on the Idaho Snow Survey website:

http://www.id.nrcs.usda.gov/snow/watersupply/swsi-main.html.

Using these tools to compare this month to the historical record shows that surface water supplies for the Owyhee River below Owyhee Dam will be most like those in 2005. This index is used to combine current reservoir storage and projected streamflows into one index or value so it can be sorted from high to low and make comparison as to how the current year ranks. Oakley and Salmon Falls SWSIs indicate that water supplies will be marginally adequate at best, based on current conditions.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - February 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter ======>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Oakley Reservoir Inflow	MAR-JUL	13.4	21	27	79	34	45	34
	MAR-SEP	14.4	22	29	78	36	49	37
Salmon Falls Ck nr San Jacinto	MAR-JUN	46	65	80	90	96	123	89
	MAR-JUL	48	68	84	90	102	131	93
	MAR-SEP	50	71	88	90	106	136	98
Bruneau R nr Hot Springs	MAR-JUL	122	174	215	92	260	334	235
	MAR-SEP	128	183	225	90	272	349	250
Owyhee R nr Gold Creek	MAR-JUL	14.9	23	29	91	37	50	32
	MAR-SEP	14.4	22	28	90	35	48	31
Owyhee R nr Rome	FEB-JUL	283	442	570	87	714	956	655
	FEB-SEP	294	457	587	87	734	979	675
Owyhee R blw Owyhee Dam	FEB-JUL	28	328	578	83	828	1195	700
	FEB-SEP	22	341	599	82	857	1237	730
	APR-SEP	9.0	175	326	76	477	699	430
Reynolds Ck at Tollgate	MAR-JUL	3.9	5.7	7.2	74	8.8	11.6	9.7

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	75.6	18.4	24.6	28.2
SALMON FALLS	182.6	20.5	28.9	55.7
WILDHORSE RESERVOIR	71.5	25.6	29.2	38.9
OWYHEE	715.0	206.6	191.9	438.3
BROWNLEE	1420.0	1155.1	1019.7	1176.3

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2009

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
Raft River	2	72	83
Goose-Trapper Creeks	3	85	84
Salmon Falls Creek	7	103	103
Bruneau River	8	122	115
Reynolds Creek	6	77	94
Owyhee Basin Total	20	89	110

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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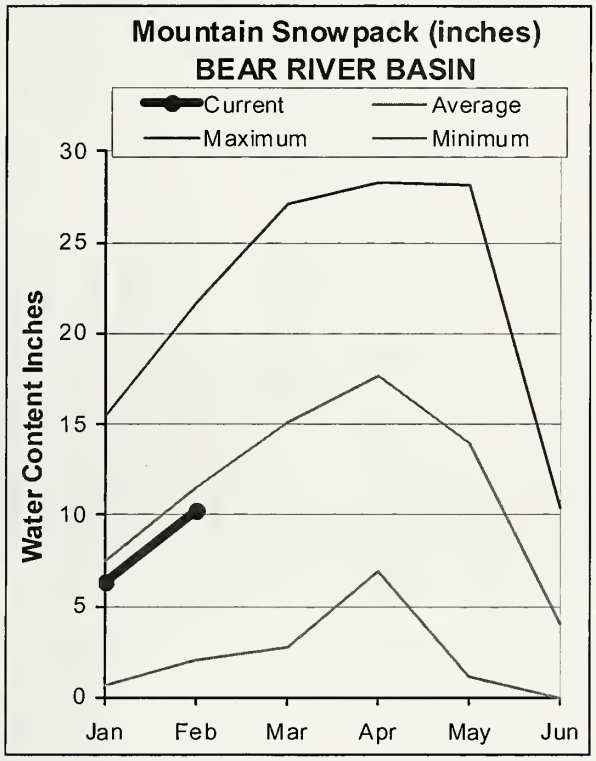
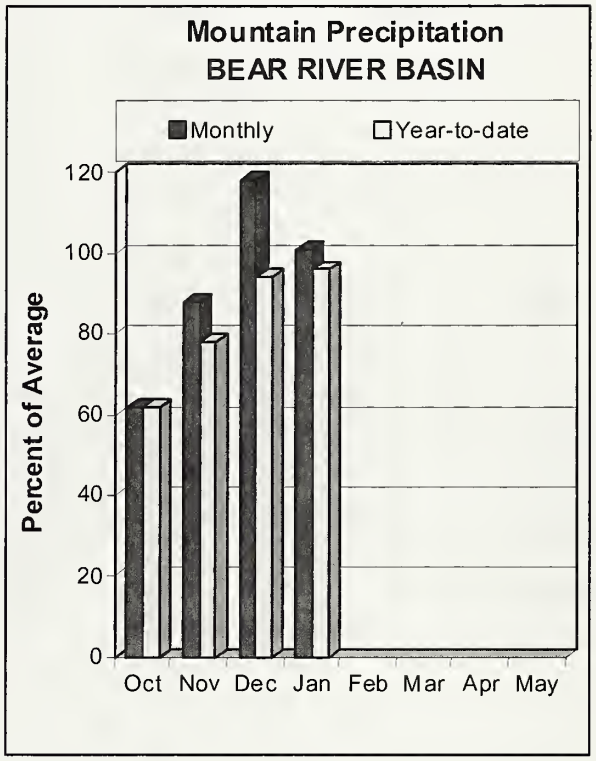
BEAR RIVER BASIN
FEBRUARY 1, 2009





WATER SUPPLY OUTLOOK

The Bear River basin managed to wring out normal precipitation from the scattered storms that crossed southern Idaho and northern Utah. Water year-to-date precipitation is 96% of average and mirrors the snowpack. Overall, the Bear River basin snowpack is 91% of average. The lowest snowpack is 82% of average in the Montpelier and Mink creek basins. The highest snowpacks are in Cub River, and Smiths and Thomas forks at 97% of average. This is good news in the Smiths Fork which provides a large percent of the flow for the Bear River at Stewart Dam. Last year's April 1 snowpack in the Bear River basin was near average, but only produced runoff that was 77% of average at Smiths Fork and 52% at Stewart Dam. Bear Lake storage is 374,000 acre-feet, only 17,000 acre-feet more than last year. Based on the Bear River Surface Water Supply Index which combines reservoir storage and projected flow, irrigation shortages may occur if Bear River flow at Stewart Dam is much less than 45% of average. Water users will be watching the weather closely in the second half of winter, as this season may come down to the wire and depend on spring precipitation.

BEAR RIVER BASIN
Streamflow Forecasts - February 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter ======>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bear R nr UT-WY State Line	APR-JUL	57	81	97	86	113	137	113
	APR-SEP	63	90	108	86	126	153	125
Bear River ab Reservoir nr Woodruff	APR-JUL	63	95	117	86	139	171	136
	APR-SEP	69	102	125	88	148	181	142
Big Creek nr Randolph	APR-JUL	2.3	3.4	4.2	86	5.0	6.1	4.9
Smiths Fork nr Border	APR-JUL	58	76	88	85	100	118	103
	APR-SEP	70	90	104	86	118	138	121
Bear River at Stewart Dam	APR-JUL	72	110	140	60	174	230	234
	APR-SEP	88	131	165	63	203	266	262
Little Bear at Paradise, UT	APR-JUL	14.8	30	40	87	50	65	46
Logan nr Logan, UT	APR-JUL	55	85	105	83	125	155	126
Blacksmith Fk nr Hyrum, UT	APR-JUL	15.7	30	41	85	50	64	48

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	374.0	357.0	906.1
MONTPELIER CREEK	4.0	2.5	1.1	1.7

BEAR RIVER BASIN
Watershed Snowpack Analysis - February 1, 2009

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	4	119	95
Bear River ab WY-ID line	10	102	93
Montpelier Creek	2	102	82
Mink Creek	1	89	83
Cub River	1	101	97
Bear River ab ID-UT line	18	100	91
Malad River	1	89	91

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List for All Forecasts Published in Idaho Water Supply Outlook Report: streamflow forecasts are projections of runoff volumes that would occur without influences from upstream reservoirs or diversions. These values are referred to as natural, unregulated or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made for each forecast point. **(Revised Nov. 2007).**

Panhandle River Basins

Kootenai R at Leonia, ID
+ Lake Koocanusa (Storage Change)
Boundary Ck nr Porthill, ID – No Corrections
Moyie R at Eastport, ID – No Corrections
Smith Creek nr Porthill, ID – No Corrections
Clark Fork R at Whitehorse Rapids, ID
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids Resv (Storage Change)
Pend Oreille Lake Inflow, ID
+ Pend Oreille R at Newport, WA
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids (Storage Change
+ Pend Oreille Lake (Storage Change)
+ Priest Lake (Storage Change)
Priest R nr Priest R, ID
+ Priest Lake (Storage Change)
NF Coeur d'Alene R at Enaville, ID - No Corrections
St. Joe R at Calder, ID - No Corrections
Spokane R nr Post Falls, ID
+ Coeur d'Alene Lake (Storage Change)
Spokane R at Long Lake, WA
+ Coeur d'Alene Lake (Storage Change)
+ Long Lake, WA (Storage Change)

Clearwater River Basin

Selway R nr Lowell - No Corrections
Lochsa R nr Lowell - No Corrections
Dworshak Resv Inflow, ID
+ Clearwater R nr Peck, ID
- Clearwater R at Orofino, ID
+ Dworshak Resv (Storage Change)
Clearwater R at Orofino, ID - No Corrections
Clearwater R at Spalding, ID
+ Dworshak Resv (Storage Change)

Salmon River Basin

Salmon R at Salmon, ID - No Corrections
Lemhi R nr Lemhi, ID – No Corrections
MF Salmon R at MF Lodge, ID – No Corrections
Salmon R at White Bird, ID - No Corrections

Weiser, Payette, Boise River Basins

Weiser R nr Weiser, ID - No Corrections
SF Payette R at Lowman, ID - No Corrections
Deadwood Resv Inflow, ID
+ Deadwood R blw Deadwood Resv nr Lowman
+ Deadwood Resv (Storage Change)
Lake Fork Payette R nr Mccall, ID – No Corrections
NF Payette R at Cascade, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)
NF Payette R nr Banks, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)
Payette R nr Horseshoe Bend, ID
+ Cascade Resv (Storage Change)
+ Deadwood Resv (Storage Change)
+ Payette Lake (Storage Change)
Boise R nr Twin Springs, ID - No Corrections
SF Boise R at Anderson Ranch Dam, ID
+ Anderson Ranch Resv (Storage Change)
Boise R nr Boise, ID
+ Anderson Ranch Resv (Storage Change)
+ Arrowrock Resv (Storage Change)
+ Lucky Peak Resv (Storage Change)

Wood and Lost River Basins

Big Wood R at Hailey, ID - No Corrections
Big Wood R abv Magic Resv, ID
+ Big Wood R nr Bellevue, ID
+ Willow Ck
Camas Ck nr Blaine – No Corrections
Big Wood R blw Magic Dam nr Richfield, ID
+ Magic Resv (Storage Change)
Little Wood R abv High Five Ck, ID – No Corrections
Little Wood R nr Carey, ID
+ Little Wood Resv (Storage Change)
Big Lost R at Howell Ranch, ID - No Corrections
Big Lost R blw Mackay Resv nr Mackay, ID
+ Mackay Resv (Storage Change)
Little Lost R blw Wet Ck nr Howe, ID - No Corrections

Upper Snake River Basin

Henrys Fork nr Ashton, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)
Henrys Fork nr Rexburg, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)
+ Grassy Lake (Storage Change)
+ Diversions from Henrys Fk btw Ashton to St. Anthony, ID
+ Diversions from Henrys Fk btw St. Anthony to Rexburg, ID
+ Diversions from Falls R abv nr Ashton, ID
+ Diversions from Falls R nr Ashton to Chester, ID
Falls R nr Ashton, ID
+ Grassy Lake (Storage Change)
+ Diversions from Falls R abv nr Ashton, ID
Teton R nr Driggs, ID - No Corrections
Teton R nr St. Anthony, ID
- Cross Cut Canal into Teton R
+ Sum of Diversions for Teton R abv St. Anthony, ID
Snake R nr Moran, WY
+ Jackson Lake (Storage Change)
Pacific Ck at Moran, WY – No Corrections
Snake R abv Palisades, WY
+ Jackson Lake (Storage Change)

Greys R abv Palisades, WY – No Corrections
Salt R abv Palisades, WY – No Corrections
Snake R nr Irwin, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Snake R nr Heise, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Willow Ck nr Ririe, ID
+ Ririe Resv (Storage Change)
Blackfoot Resvervoir Inflow, ID
+ Blackfoot Reservoir releases
+ Blackfoot Resv (Storage Change
Portneuf R at Topaz, ID - No Corrections
Snake River at Neeley, ID
+ Snake River at Neeley (observed)
+ All Corrections made for Henrys Fk nr Rexburg, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
+ Diversions from Snake R btw Heise and Shelly
+ Diversions from Snake R btw Shelly and Blackfoot

Southside Snake River Basins

Oakley Resv Inflow, ID
+ Goose Ck abv Trapper Ck
+ Trapper Ck nr Oakley
Salmon Falls Ck nr San Jacinto, NV - No Corrections
Bruneau R nr Hot Springs, ID - No Corrections
Owyhee R nr Gold Ck, NV
+ Wildhorse Resv (Storage Change)
Owyhee R nr Rome, OR – No Corrections
Owyhee R blw Owyhee Dam, OR
+ Owyhee R blw Owyhee Dam, OR (observed)
+ Owyhee Resv (Storage Change)
+ Diversions to North and South Canals
Snake R at King Hill, ID - No Corrections
Snake R nr Murphy, ID - No Corrections
Snake R at Weiser, ID - No Corrections
Snake R at Hells Canyon Dam, ID
+ Brownlee Resv (Storage Change)

Bear River Basin

Bear R nr UT-WY Stateline, UT – No Corrections
Bear R abv Resv nr Woodruff, UT – No Corrections
Smiths Fork nr Border, WY - No Corrections
Bear R blw Stewart Dam nr Montpelier, ID
+ Bear R blw Stewart Dam
+ Rainbow Inlet Canal

Reservoir Capacity Definitions (Units in 1,000 Acre-Feet, KAF)

Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. **(Revised Dec. 2005)**

Basin/ Reservoir	Dead Storage	Inactive Storage	Active Storage	Surcharge Storage	NRCS Capacity	NRCS Capacity Includes
Panhandle Region						
Hungry Horse	39.73	---	3451.00	---	3451.0	Active
Flathead Lake	Unknown	---	1791.00	---	1791.0	Active
Noxon Rapids	Unknown	---	335.00	---	335.0	Active
Pend Oreille	406.20	112.40	1042.70	---	1561.3	Dead+Inactive+Active
Coeur d'Alene	---	13.50	225.00	---	238.5	Inactive+Active
Priest Lake	20.00	28.00	71.30	---	119.3	Dead+Inactive+Active
Clearwater Basin						
Dworshak	---	1452.00	2016.00	---	3468.0	Inactive+Active
Weiser/Boise/Payette Basins						
Mann Creek	1.61	0.24	11.10	---	11.1	Active
Cascade	---	46.70	646.50	---	693.2	Inactive+Active
Deadwood	---	---	161.90	---	161.9	Active
Anderson Ranch	24.90	37.00	413.10	---	450.1	Inactive+Active
Arrowrock	---	---	272.20	---	272.2	Active
Lucky Peak	---	28.80	264.40	13.80	293.2	Inactive+Active
Lake Lowell	7.90	5.80	159.40	---	165.2	Inactive+Active
Wood/Lost Basins						
Magic	Unknown	---	191.50	---	191.5	Active
Little Wood	---	---	30.00	---	30.0	Active
Mackay	0.13	---	44.37	---	44.4	Active
Upper Snake Basin						
Henrys Lake	---	---	90.40	---	90.4	Active
Island Park	0.40	---	127.30	7.90	135.2	Active+Surcharge
Grassy Lake	---	---	15.18	---	15.2	Active
Jackson Lake	Unknown	---	847.00	---	847.0	Active
Palisades	44.10	155.50	1200.00	---	1400.0	Dead+Inactive+Active
Ririe	4.00	6.00	80.54	10.00	80.5	Active
Blackfoot	---	---	348.73	---	348.7	Active
American Falls	---	---	1672.60	---	1672.6	Active
Southside Snake Basins						
Oakley	---	---	75.60	---	75.6	Active
Salmon Falls	48.00	5.00	182.65	---	182.6	Active+Inactive
Wildhorse	---	---	71.50	---	71.5	Active
Owyhee	406.83	---	715.00	---	715.0	Active
Brownlee	0.45	444.70	975.30	---	1420.0	Inactive+Active
Bear River Basin						
Bear Lake	5.0 MAF	119.00	1302.00	---	1421.0	Active+Inactive: includes 119 that can be released
Montpelier Creek	0.21	---	3.84	---	4.0	Dead+Active

Interpreting Water Supply Forecasts

Introduction
Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

90 Percent Chance of Exceedance Forecast. There is a 90 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 10 percent chance that the actual streamflow volume will be less than this forecast value.

70 Percent Chance of Exceedance Forecast. There is a 70 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 30 percent chance that the actual streamflow volume will be less than this forecast value.

50 Percent Chance of Exceedance Forecast. There is a 50 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 50 percent chance that the actual streamflow volume will be less than this forecast value. Generally, this forecast is the middle of the range of possible streamflow volumes that can be produced given current conditions.

30 Percent Chance of Exceedance Forecast. There is a 30 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 70 percent chance that the actual streamflow volume will be less than this forecast value.

10 Percent Chance of Exceedance Forecast. There is a 10 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 90 percent chance that the actual streamflow volume will be less than this forecast value.

*Note: There is still a 20 percent chance that actual streamflow volumes will fall either below the 90 percent exceedance forecast or above the 10 percent exceedance forecast.

These forecasts represent the uncertainty inherent in making streamflow predictions. This uncertainty may include sources such as: unknown future weather conditions, uncertainties associated with the various prediction methodologies, and the spatial coverage of the data network in a given basin.

30-Year Average. The 30-year average streamflow for each forecast period is provided for comparison. The average is based on data from 1971-2000. The % AVG. column compares the 50% chance of exceedance forecast to the 30-year average streamflow; values above 100% denote when the 50% chance of exceedance forecast would be greater than the 30-year average streamflow.

AF - Acre-feet, forecasted volume of water are typically in thousands of acre-feet.

These forecasts are given to users to help make risk-based decisions. Users can select the forecast corresponding to the level of risk they are willing to accept in order to minimize the negative impacts of having more or less water than planned for.

To Decrease the Chance of Having Less Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive less than this amount). To reduce the risk of .having less water than planned for, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded such as the 90 or 70 percent exceedance forecasts.

To Decrease the Chance of Having More Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive more than this amount). To reduce the risk of having more water than planned for, users can base their operational decisions on one of the forecasts with a lesser chance of being exceeded such as the 30 or 10 percent exceedance forecasts.

Using the forecasts - an Example
Using the 50 Percent Exceedance Forecast. Using the example forecasts shown below, there is a 50% chance that actual streamflow volume at the Boise River near Twin Springs will be less than 685 KAF between April 1 and July 31. There is also a 50% chance that actual streamflow volume will be greater than 685 KAF.

Using the 90 and 70 Percent Exceedance Forecasts. If an unexpected shortage of water could cause problems (such as irrigated agriculture), users might want to plan on receiving 610 KAF (from the 70 percent exceedance forecast). There is a 30% chance of receiving *less* than 610 KAF.

Alternatively, if users determine the risk of using the 70 percent exceedance forecast is too great, then they might plan on receiving 443 KAF (from the **90** percent exceedance forecast). There is 10% chance of receiving less than 443 KAF.

Using the 30 or 10 Percent Exceedance Forecasts. If an unexpected excess of water could cause problems (such as operating a flood control reservoir), users might plan on receiving 760 KAF (from the 30 percent exceedance forecast). There is a 30% chance of receiving *more* than 760 KAF.

Alternatively, if users determine the risk of using the 30 percent exceedance forecast is too great, then they might plan on receiving 927 KAF (from the 10 percent exceedance forecast). There is a 10% chance of receiving more than 927 KAF.

Users could also choose a volume in between any of these values to reflect their desired risk level.

Weiser, Payette, Boise River Basins
Streamflow Forecasts – January 2006

Forecast Point	Forecast Period	Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000 AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432
	APR-SEP	369	459	521	107	583	673	488
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631
	APR-SEP	495	670	750	109	830	1005	690

*90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table

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